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2 What is claimed is:

1 1. An apparatus for using a control port to operate in accordance with multiple
2 signal protocols comprising:

3 an interface controller comprising a line driver, a system interface and a
4 plurality of protocol drivers each defining at least one signal characteristic, the
5 system interface operable to receive a configuration instruction from a main
6 processor and the line driver operable to communicate data on an input line and
7 an output line, and control signals on a direction line and a modulation control
8 line in accordance with the configuration instruction; and

9 a control signal processor connected to the control port and to the
10 interface controller via the input line, the output line, the direction line and the
11 modulation control line, the control signal processor comprising:

12 an output function to couple a data signal on the control port
13 from the output line in accordance with a first direction state on the
14 direction line;

15 an input function to couple a data signal from the control port
16 to the input line in accordance with a second direction state on the
17 direction line; and

18 a modulator unit operable to modulate the data signal output
19 in accordance with the modulation control line.

1 2. The apparatus of claim 1 wherein the control signal processor comprises a bi-
2 directional buffer having a buffer control line coupled to the direction line and operable
3 to enable the bi-direction buffer to communicate the data from the output line to the
4 control port when the direction line is in the first direction state and to communicate the
5 data from the control port to the input line when the direction line is in the second
6 direction state.

1 3. The apparatus of claim 1 wherein the modulator unit modulates the data signal at
2 the output line by coupling a carrier signal to the control port when the data signal

3 transitions from a first digital level to a second digital level if the modulation control line
4 is in a modulation enable state.

1 4. The apparatus of claim 1 wherein the interface controller further comprises a
2 modulation direction line coupled to the control signal processor, the interface controller
3 operable to set the modulation direction line to a normally high state or to a normally low
4 state in accordance with the selected protocol driver.

1 5. The apparatus of claim 4 wherein the modulator unit modulates the data signal at
2 the output line by coupling a carrier signal to the control port when the data signal
3 transitions from a digital high level to a digital low level, and by coupling the data signal
4 when the data signal transitions to a digital high level, the modulator unit being operable
5 to invert the data signal from a digital high level before coupling the data signal to the
6 control port if the modulation direction line is in the normally low state.

1 6. The apparatus of claim 4 wherein the modulator unit modulates the data signal at
2 the output line by coupling a carrier signal to the control port when the data signal
3 transitions from a digital high level to a digital low level and by coupling the data signal
4 to the control port when the data signal transitions to the digital high level if the
5 modulation direction line is in the normally high state.

1 7. The apparatus of claim 1 wherein the line driver is operable to drive at least one
2 additional input line, at least one additional output line, at least one additional direction
3 line and at least one additional modulation control line, each at least one additional output
4 line, input line, direction line and modulation control line being coupled to at least one
5 additional corresponding control signal processor, each additional corresponding control
6 signal processor coupled to a corresponding additional control port.

1 8. The apparatus of claim 1 wherein the plurality of protocol drivers comprises an S-
2 Link protocol driver.

1 9. The apparatus of claim 1 wherein the plurality of protocol drivers comprises at
2 least one wired infrared (IR) protocol driver defining corresponding wired IR protocols
3 used by selected disc changers.

1 10. A method for using a control port to operate in accordance with multiple signal
2 protocols comprising the steps of:

3 receiving a first configuration instruction from a main processor;
4 selecting a protocol driver from a plurality of protocol drivers
5 corresponding to the multiple signal protocols in accordance with the first
6 configuration instruction;
7 setting a modulation control line to enable or disable modulation of an
8 output signal in accordance with the configuration instruction;
9 receiving output data from the main processor;
10 setting a direction line to an output direction state; and
11 sending the output data to the control port by converting the output data to
12 a serial output signal in accordance with the selected protocol driver and, if the
13 modulation control line is set to enable modulation, modulating the serial output
14 signal.

1 11. The method of claim 10 further comprising the steps of:

2 setting the direction line to an input direction state; and
3 receiving a serial input signal and converting the serial input signal to input
4 data in accordance with the selected protocol driver.

1 12. The method of claim 10 wherein the step of modulating the serial output signal
2 comprises the steps of:

3 coupling a carrier signal to the control port when the serial output signal
4 transitions from a first digital level to a second digital level; and
5 coupling the serial output signal when the serial output signal transitions
6 from the second digital level to the first digital level.

- 1 13. The method of claim 10 further comprising the step of:
2 setting a modulation direction line to a normally high state in accordance
3 with the configuration instruction, wherein the step of modulating the output
4 signal comprises the steps of:
5 coupling a carrier signal to the control port when the serial
6 output signal transitions from a digital high level to a digital low
7 level; and
8 coupling the serial output signal when the serial output signal
9 transitions from the digital low level to the digital high level.
- 1 14. The method of claim 10 further comprising the step of:
2 setting a modulation direction line to a normally low state in accordance
3 with the configuration instruction, wherein the step of modulating the output
4 signal comprises the steps of:
5 coupling a carrier signal to the control port when the serial
6 output signal transitions from a digital high level to a digital low
7 level;
8 coupling the serial output signal when the serial output signal
9 transitions from the digital low level to the digital high level; and
10 inverting the serial output signal when the serial output
11 signal is in the digital high level before coupling the serial output
12 signal to the control port.
- 1 15. A media management system comprising:
2 a plurality of media source input/output (I/O) ports coupled to a plurality of
3 media sources;
4 a media player interface comprising a plurality of output ports coupled to a
5 plurality of media players;
6 a user interface coupled to at least one user interface device, the user
7 interface operable to receive at least one configuration instruction from a user;

8 a control port system comprising at least one control port corresponding
9 with at least one media source device coupled to at least one selected media
10 source I/O port, the at least one media source device comprising a remote
11 control input operable to receive control signals in accordance with a signal
12 protocol, the at least one control port coupled to the remote control input, the
13 control port system operable to configure the at least one control port to operate
14 in accordance with one of a plurality of signal protocols, the control port system
15 operable to select one of the plurality of signal protocols in accordance with the
16 configuration instruction; and

17 a media processor operable to receive the configuration instruction and to
18 couple the configuration instruction to the control port system.

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